

CLAIMS

1. A computer system adapted to play audio files, said computer system comprising:
- a system CPU;
 - memory;
 - at least one drive comprising compressed audio data, said compressed audio data residing in one or more audio files;
 - a play list software program for selecting and storing a play list comprising one or more of said audio files;
 - a first operating system adapted to control at least said system CPU and said memory; and
 - a second operating system, said second operating system being stored in BIOS and adapted to retrieve said play list and cause said drive to read at least one said audio file of said play list, to cause said system CPU to decompress the compressed audio data of said file and provide decompressed audio data, and to cause said decompressed audio data to be stored in said memory.
2. A computer system adapted to play audio files, said computer system comprising:
- a system CPU;
 - memory;
 - at least one drive comprising compressed audio data;
 - a first operating system adapted to control at least said system CPU and said memory; and
 - a second operating system, said second operating system being stored in BIOS and adapted to cause said system CPU to decompress said compressed audio data and

1 an audio controller;
2 a first operating system adapted to control at least said system CPU; and
3 a second operating system stored in BIOS, said second operating system
4 controlling said audio controller and said system CPU, so as to cause said system CPU to
5 decompress said compressed audio data.

6 7. A computer system adapted to play audio files, said computer system comprising:

7 a system CPU;
8 memory;
9 at least one drive comprising compressed audio data, said compressed
10 audio data residing in one or more audio files;
11 a first operating system adapted to control at least said system CPU and
12 said memory;
13 a play list software program executable under said first operating system,
14 said play list software program being adapted to permit selection and storage of a play list
15 comprising one or more of said audio files; and
16 a second operating system, said second operating system being stored in
17 BIOS and adapted to retrieve said play list and cause said drive to read at least one said audio
18 file of said play list, to cause said system CPU to decompress the compressed audio data of
19 said file and provide decompressed audio data, and to cause said decompressed audio data to
20 be stored in said memory.

21 8. A computer system adapted to play audio files, said computer system comprising:

22 at least one drive comprising audio data, said audio data residing in one or
23 more audio files;

1 a system CPU;
2 memory;
3 a first operating system adapted to control at least said system CPU and
4 said memory;
5 a play list software program executable under said first operating system,
6 said play list software program being adapted to permit selection and storage of a play list
7 comprising one or more of said audio files; and
8 a second operating system, said second operating system being stored in
9 BIOS and adapted to retrieve said play list and cause said drive to read at least one said audio
10 file of said play list, and to play said at least one said audio file of said play list.

11 9. A computer system adapted to play audio files, said computer system comprising:
12 a drive comprising at least one audio file;
13 an audio controller; and
14 an operating system stored in BIOS, said operating system controlling said audio
15 controller, so as to cause said audio controller to play said at least one audio file.

16 10. A computer system adapted to play audio files, said computer system comprising:
17 a system CPU;
18 a drive comprising at least one compressed audio file; and
19 an operating system stored in BIOS, said operating system controlling said system
20 CPU, so as to cause said system CPU to decompress said at least one audio file.

21 11. A method of playing audio files on a computer system, said method comprising:
22 booting a first operating system;
23 creating and storing a play list comprising a list of compressed audio files residing on

one or more drives of a computer system having at least a drive, a CPU, and a memory;
terminating said first operating system;
booting a second operating system upon activation by a switch;
reading said play list;
reading said compressed audio files from said drive based on said play list;
providing said compressed audio data to said CPU for decompressing the data of said
compressed audio file into decompressed audio data;
storing said decompressed audio data in said memory; and
retrieving said decompressed audio data from said memory for playing.

12. A method of playing audio files on a computer system, said method comprising:
booting a first operating system;
creating and storing a play list comprising a list of compressed audio files residing on
one or more drives of a computer system having at least a drive, a CPU, and a memory;
terminating said first operating system;
booting a second operating system;
reading said play list;
reading said compressed audio files from said drive based on said play list;
providing said compressed audio data to said CPU for decompressing the data of said
compressed audio file into decompressed audio data;
storing said decompressed audio data in said memory; and
retrieving said decompressed audio data from said memory for playing.

13. A computer system adapted to play audio files, said computer system comprising:
a system CPU;

memory;

at least one drive comprising compressed audio data;

a first operating system adapted to control at least said system CPU and said memory;

a second operating system, said second operating system being adapted to cause said system CPU to decompress said compressed audio data and store said decompressed audio data in said memory;

a first switch, the activation of said first switch causing said first operating system to boot; and

a second switch, the activation of said second switch causing said second operating system to boot.

14. A computer system adapted to play audio files, said computer system comprising:

a system CPU;

memory;

a first operating system adapted to control at least said system CPU and

said memory;

at least one drive comprising compressed audio data;

a second operating system, said second operating system being adapted to

cause said system CPU to decompress said compressed audio data and store said compressed audio data in said memory; and

a switch, the activation of said switch causing said second operating

system to boot.

15. A computer system adapted to play audio files, said computer system comprising:

1 compressed audio data;
2 a system CPU;
3 a first operating system adapted to control at least said system CPU and
4 said memory;
5 a second operating system, said second operating system being adapted to
6 cause said system CPU to decompress said compressed audio data; and
7 a switch, the activation of said switch causing said second operating
8 system to boot and cause said system CPU to decompress said compressed audio data.
9 16. A computer system adapted to play audio files, said computer system comprising:
10 compressed audio data;
11 a system CPU;
12 an audio controller;
13 a first operating system adapted to control at least said system CPU and
14 said memory;
15 a second operating system, said second operating system controlling said
16 audio controller and said system CPU, so as to cause said system CPU to decompress said
17 compressed audio data; and
18 a switch, the activation of said switch causing said second operating
19 system to boot.

20 17. A computer system adapted to play audio files, said computer system comprising:
21 compressed audio data;
22 a system CPU;
23 an audio controller;

1 a first operating system adapted to control at least said system CPU;
2 a second operating system, said second operating system controlling said
3 audio controller and said system CPU, so as to cause said system CPU to decompress said
4 compressed audio data; and
5 a switch, the activation of said switch causing said second operating
6 system to boot.

7 18. A computer system adapted to play audio files, said computer system comprising:
8 a drive comprising at least one audio file;
9 an audio controller;
10 an operating system, said operating system being stored in BIOS and adapted to
11 control said audio controller, so as to cause said audio controller to play said at least one
12 audio file; and

13 a switch, the activation of said switch causing said operating system to boot.

14 19. A computer system adapted to play audio files, said computer system comprising:
15 a system CPU;
16 a drive comprising at least one compressed audio file; and
17 an operating system, said operating system being stored in BIOS and adapted to
18 control said system CPU, so as to cause said system CPU to decompress said at least one
19 audio file; and

20 a switch, the activation of said switch causing said operating system to boot.

21 20. A computer system adapted to play audio files, said computer system comprising:
22 a system CPU;
23 memory;

1 at least one drive comprising compressed audio data; and
2 an audio controller coupled to said system CPU, memory and drive;
3 said audio controller being adapted to cause said drive to read said
4 compressed audio data, to cause said system CPU to decompress said compressed audio data,
5 thereby providing decompressed audio data, and to cause said decompressed audio data to be
6 stored in said memory.

7
8 21. A computer system as claimed in claim 20, wherein said audio controller is further
9 adapted to place said system CPU in standby state when said system CPU is not decompressing
10 said compressed audio data.

11 22. A computer system as claimed in claim 20, wherein said audio controller is further
12 adapted to cause said decompressed audio data to be retrieved from said memory for playing.

13 23. A computer system as claimed in claim 20, wherein said drive is a hard disk,
14 removable disk, floppy disk, magnetic storage medium, optical storage medium, or IDE device.

15 24. A computer system as claimed in claim 20, wherein said compressed audio data is in
16 MP3, WMA, AAC, or other secured compressed audio format.

17 25. A computer system as claimed in claim 20, further comprising at least one digital
18 computer bus, wherein said audio controller is coupled to at least one of said system CPU,
19 memory, and drive via said digital computer bus.

20 26. A computer system as claimed in claim 20, further comprising a mini-OS.

21 27. A computer system as claimed in claim 20, further comprising an LCD interface for
22 generating signals to an LCD display for displaying song name, file/directory name and/or
23 timing data.

1 28. A computer system as claimed in claim 20, further comprising a plurality of function
2 keys and a function key interface operable with said plurality of function keys, said function
3 keys generating user commands to said audio controller through said function key interface.

4 29. A computer system as claimed in claim 28, further comprising a software driver for
5 receiving interrupts generated by at least one of said plurality of function keys and for passing
6 said interrupts to said system CPU.

7 30. A computer system as claimed in claim 29, further comprising standard audio player
8 software, wherein said CPU utilizes said interrupts to control said standard audio player
9 software.

10 31. A computer system as claimed in claim 20, wherein said audio controller is adapted
11 not to cause said drive to read said compressed audio data, nor to cause said system CPU to
12 decompress said compressed audio data, nor to cause said decompressed audio data to be stored
13 in said memory, unless said computer system is off, in hibernate mode, in suspend to HDD
14 mode, or in one of power states S4 or S5.

15 32. A computer system as claimed in claim 20, wherein said audio controller is adapted
16 not to cause said drive to read said compressed audio data, nor to cause said system CPU to
17 decompress said compressed audio data, nor to cause said decompressed audio data to be stored
18 in said memory, when said computer system is on, in sleep mode, in suspend to RAM mode, or
19 in one of power states S0 or S3.

20 33. A computer system as claimed in claim 29, wherein said software driver is adapted
21 not to receive said interrupts generated by at least one of said plurality of function keys nor pass
22 said interrupts to said system CPU, unless said computer system is on, in sleep mode, in suspend
23 to RAM mode, or in one of power states S0 or S3.

1 34. A computer system as claimed in claim 20, wherein said compressed audio data is
2 stored in one or more audio files on said drive, said computer system further comprising a play
3 list software program for creating and storing a play list comprising one or more said audio files.

4 35. A computer system as claimed in claim 34, wherein said play list software program is
5 executable only when said computer is on or in power state S0.

6 36. A computer system as claimed in claim 35, wherein said audio controller is further
7 adapted to cause said drive to read said compressed audio data based, at least in part, on said
8 stored play list.

9 37. A computer system adapted to play audio files, said computer system comprising:

10 a system CPU;

11 memory;

12 at least one drive comprising compressed audio data, said compressed
13 audio data residing in one or more audio files;

14 a play list software program for selecting a play list comprising one or
15 more of said audio files; and

16 an audio controller coupled to said system CPU, memory and drive;

17 said audio controller being adapted to cause said drive to read at least one
18 said audio file of said play list, to cause said system CPU to decompress the compressed
19 audio data of said file and thereby provide decompressed audio data, and to cause said
20 decompressed audio data to be stored in said memory.

21 38. A method of playing audio files on a computer system, said method comprising:

22 reading compressed audio data from the drive of a computer system having at

23 least a drive, a CPU, and a memory;

1 files.

2 51. A method of playing audio files on a computer system as claimed in claim 50,
3 wherein said step of creating and storing a play list is only performed when said computer is on
4 or in power state S0.

5 52. A method of playing audio files on a computer system as claimed in claim 51, further
6 comprising reading said compressed audio data from said drive based, at least in part, on said
7 play list.

8 53. A method of playing audio files on a computer system, said method comprising:
9 creating and storing a play list comprising a list of compressed audio files residing on
10 one or more drives of a computer system having at least a drive, a CPU, and a memory;

11 reading said play list;

12 reading said compressed audio files from said drive based on said play list;

13 providing said compressed audio data to said CPU for decompressing the data of said
14 compressed audio file into decompressed audio data;

15 storing said decompressed audio data in said memory; and

16 retrieving said decompressed audio data from said memory for playing.

17 54. A method of playing audio files on a computer system, said method comprising:

18 when said computer system is on, in sleep mode, in suspend to RAM mode, or in one
19 of power states S0 or S3, creating and storing a play list comprising a list of compressed audio
20 files residing on one or more drives of a computer system having at least a drive, a CPU, and a
21 memory; and

22 when said computer system is off, in hibernate mode, in suspend to HDD mode, or in one
23 of power states S4 or S5, playing the compressed audio files of said play list.

1 55. A method of playing audio files on a computer system, said method comprising:
2 when said computer system is on, in sleep mode, in suspend to RAM mode, or in one
3 of power states S0 or S3, creating and storing a play list comprising a list of compressed audio
4 files residing on one or more drives of a computer system having at least a drive, a CPU, and a
5 memory;
6 when said computer system is off, in hibernate mode, in suspend to HDD mode, or in
7 one of power states S4 or S5, reading said play list;
8 when said computer system is off, in hibernate mode, in suspend to HDD mode, or in
9 one of power states S4 or S5, reading said compressed audio files from said drive based on said
10 play list;
11 when said computer system is off, in hibernate mode, in suspend to HDD mode, or in
12 one of power states S4 or S5, providing said compressed audio data to said CPU for
13 decompressing the data of said compressed audio file into decompressed audio data;
14 when said computer system is off, in hibernate mode, in suspend to HDD mode, or in
15 one of power states S4 or S5, storing said decompressed audio data in said memory; and
16 when said computer system is off, in hibernate mode, in suspend to HDD mode, or in
17 one of power states S4 or S5, retrieving said decompressed audio data from said memory for
18 playing.

19 56. A method of playing audio files on a computer system, said method comprising:
20 reading compressed audio data from the drive of a computer system, said computer
21 system having at least a drive, a CPU, and a memory;
22 providing said compressed audio data to said CPU for decompressing said compressed
23 audio data into decompressed audio data;

1 storing said decompressed audio data in said memory; and

2 playing said decompressed audio data from said memory.

3 57. A computer system adapted to play audio files, said computer system comprising:

4 a system CPU;

5 memory;

6 at least one drive comprising compressed audio data, said compressed audio data

7 residing in one or more audio files;

8 a play list software program for selecting and storing a play list comprising one or

9 more of said audio files; and

10 an audio controller coupled to said system CPU, memory and drive;

11 said audio controller being adapted to retrieve said play list and cause said drive to

12 read at least one said audio file of said play list, to cause said system CPU to decompress the

13 compressed audio data of said file and provide decompressed audio data, to cause said

14 decompressed audio data to be stored in said memory, and to cause said decompressed audio

15 data to be played from said memory.

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